

# Managing PBS Jobs Launched from an AWS Dynamic Front End

This article provides information on managing your PBS jobs submitted from an [AWS dynamic front end](#).

For additional information, see also, [Managing AWS PBS Jobs From a PFE](#).

Note: The `aws_pbs_host`, `aws_qstat`, and `aws_qdel` scripts described in this article are located under `/u/scicon/tools/bin` on Pleiades. The instructions below assume that you have included `/u/scicon/tools/bin` in your `$PATH`.

After launching and using SSH to access an AWS dynamic front end, you can manage PBS jobs as follows.

## Finding Available Queues

To find available queues and their limits, use the `-q` or `-Q` option:

```
aws% qstat -q
or
aws% qstat -Q
```

Among the queues listed in the output, you have direct access only to the *cloud* queue, which routes the job to the execution queue *cloud\_exec*. The other queues, such as *frontend* and *s3op*, are used by NAS-controlled scripts (*aws\_fe* and *nas\_s3\_xxx*) for managing the [AWS dynamic front end](#) and [data at AWS S3](#) on your behalf.

## Submitting Jobs (qsub)

You can submit both interactive and batch jobs to the 'cloud' queue, using:

```
aws% qsub -I -q cloud -lselect=1...
aws% qsub -q cloud job_script
```

Note: You should be able to tell by the hostname included in the prompt whether you are in the front end (*awsfe-XXXXX*) or in the interactive PBS session (*compute-XXXXX*).

Note: The wall-time requested for an interactive PBS session should not be longer than the remaining time of your AWS dynamic front-end session.

## Checking Jobs (qstat or aws\_qstat)

You can check the job status either by using `qstat` on your AWS front end or by using `aws_qstat` on a PFE, as follows:

- On the AWS Front-End

```
aws% qstat -a
aws% qstat -nu your_user_name
```

- On the PFE

```
pfe% aws_qstat -a @`aws_pbs_host`
```

```
pfe% aws_qstat -a @`aws_pbs_host` --group gid` (to check a job for a non-default GID)
pfe% aws_qstat -nu your_user_name@`aws_pbs_host` --group gid`
```

## Deleting Jobs (qdel or aws\_qdel)

You can delete a job using **qdel** on your AWS front end or **aws\_qdel** on a PFE.

- On the AWS Front-End

```
aws% qdel jobid
```

- On the PFE

```
pfe% aws_qdel jobid (note, the jobid here is just the numerical part)
pfe% aws_qdel --group gid jobid (to delete a job for a non-default GID)
pfe% aws_qdel --group gid jobid.your_aws_pbs_server
pfe% aws_qdel --group gid jobid.your_aws_pbs_server.nas.nasa.gov
```

## Finding Your PBS Output/Error Files

When a job exits, the PBS output file (which includes job accounting data) and error files are placed in the \$PBS\_O\_WORKDIR on AWS, they are *not* sent back to Pleiades.

## Handling Job Accounting

AWS charges for the compute instances (CPU/GPU), filesystems, storage, and network for transferring data out of AWS. NAS charges an overhead cost, which is a TBD percentage of the total AWS charge. The Job Costs entry includes both the AWS charge and the NAS overhead charge.

## Example Job Accounting Summary

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```
Job Resource Usage Summary for 3622.your_aws_pbs_server.nas.nasa.gov
Total Runtime           : 00:04:10
Job Stage In Time (free) : Submitted from AWS, no stage in
Job Startup Time        : 00:02:05
Time Spent In PBS Script : 00:02:03
Job Stage Out Time       : 00:00:01
Walltime Requested      : 00:05:00
Execution Queue          : AWS Cloud
Charged To               : scicon
Job Finished             : Fri Apr 12 16:49:57 2019
Instance Types (ondemand): 1 m5.2xlarge
EBS Usage                 : 16773959680 bytes
S3 Usage                  : 0 bytes
Charged Bandwidth Usage  : 0 bytes
NAS overhead charge      : 0.000 percent
Job Costs                 : $0.0268173415057
```

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Article ID: 586

Last updated: 04 Dec, 2019

Revision: 28

Cloud Computing -> AWS Cloud -> Managing PBS Jobs Launched from an AWS Dynamic Front End

<https://www.nas.nasa.gov/hecc/support/kb/entry/586/>